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# Green Sukuk, Energy Poverty, and Climate Change

## A Roadmap for Sub-Saharan Africa

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Office of the Senior Vice President

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## Abstract

The climate change challenge and the growth of the Islamic finance industry, together with the increase in socially responsible investing, could position green *sukuk* as a key instrument for financing clean energy and resilient infrastructure projects as well as shorter-term energy efficiency

projects. Expansion of a green *sukuk* market could promote environment-friendly projects and improve livelihoods, helping Islamic finance achieve its moral objectives. A roadmap shows how policy makers could create a green *sukuk* market in Sub-Saharan Africa.

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# Green Sukuk, Energy Poverty, and Climate Change: A Roadmap for Sub-Saharan Africa

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## Abbreviations

AfDB	African Development Bank
BCEAO	Central Bank for the West African States
BOAD	West African Development Bank
BRVM	Bourse Régionale des Valeurs Mobilières
CBI	Climate Bonds Initiative
CFA	Communauté Financière Africaine
CFTA	Continental Free Trade Agreement
COP	Conference of Parties
ESG	environmental, social, and governance
LCBM	local currency bond market
OECD	Organisation for Economic Co-operation and Development
REC	regional economic community
SDG	Sustainable Development Goal
SRI	sustainable and responsible investment
SSA	Sub-Saharan Africa
UEMOA	Union Economique et Monétaire Ouest Africaine
UNFCCC	United Nations Framework Convention on Climate Change

## 1. Introduction

On September 25, 2015, countries appropriated a set of 17 Sustainable Development Goals (SDGs) to end poverty, secure the planet, and ensure prosperity for all (World Bank 2018b). The SDGs are a call for action by all nations—poor, rich, and middle-income—to advance prosperity while protecting the planet (World Bank 2018a). The idea is that ending poverty must run inseparably from efforts to boost economic growth and address a range of social needs, including education, health, social protection, and job opportunities, while being mindful of environmental change and ecological security. For the goals to be reached, all stakeholders—governments, the private sector, civil society, and individual citizens—must be actively engaged (World Bank 2018ab).

Concurrently, efforts by the international community to take action on climate change led to the establishment of the United Nations Framework Convention on Climate Change (UNFCCC), which has held annual Conferences of the Parties (COPs) since 1995. In 2015 the Paris Agreement was adopted and ratified by 178 countries, committing virtually all countries to undertake ambitious efforts to combat climate change and adapt to its effects. One of the key requirements of the climate agreement is energy transition to promote greater use of renewable energy.

Sub-Saharan Africa (SSA) is particularly vulnerable to climate change. It suffers from energy poverty,<sup>1</sup> as well as severe flooding, coastal erosion, prolonged droughts, strong winds, crop damage, and biodiversity loss. Many case studies (IIASA 2014; UNEP 2016) present evidence of the direct link between energy access and socioeconomic benefits and rural poverty reduction in Africa.

A regional study by the World Bank suggests that less than 43 percent of the population of SSA had access to electricity in 2016, with almost two-thirds of the population (more than 600 million people) living without electricity (80 percent in rural areas) (World Bank 2018b). The investment required to implement renewable energy solutions is \$1.4 trillion, an annual average of about \$100 billion between 2016 and 2030 (IRENA 2016). More than 60 percent of the investment required to provide global universal access to electricity by 2030 is in SSA (OECD 2012).

Most investment can be mobilized by reallocating fossil fuel investments to renewable energies. But because funding from public and concessional sources is scarce, an engaged private sector will be needed to make significant investments in renewable energy technologies (World Bank and Climate Investment Funds 2015). Therefore, most of the international climate finance discussions emphasize the importance of using various instruments, such as derisking, to mobilize additional private sector financing.<sup>2</sup> Resources are also needed for capacity building to prepare and implement projects (Mohieldin and Verbeek 2018), put in place adaptation and mitigation measures, and develop financing instruments for climate resilient and low-carbon projects.

Traditional development financing sources include concessional public finance (domestic

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<sup>1</sup> A 2016 report by the Renewable Energy Policy Network for the 21st Century (REN21) shows that about 1.2 billion people (17 percent of the world's population) live without electricity, with the vast majority in the Asia-Pacific region (44 percent) and SSA (53 percent).

<sup>2</sup> This process is usually defined as blending whereby public resources are leveraged in order to mobilize additional private investments allowing for a larger investment to take place if one was to rely on public resources alone.



tax revenue and international concessional assistance), market-related public borrowings (from public and private intermediaries), and private finance. These financing modes are usually interest based and therefore do not comply with *shari'ah* principles.<sup>3</sup>

Islamic finance—as put forward at the Third International Conference on Financing for Development in Addis Ababa in July 2015—can both complement and provide an alternative to traditional sources of funding to realize the SDGs. The main asset classes in Islamic finance include Islamic banking (76 percent), Islamic equity and fund markets (3.3 percent), and *Takaful*<sup>4</sup> (1.3 percent), along with Islamic capital markets (IFSB 2018).

*Sukuk*<sup>5</sup>—the second-largest asset class in Islamic finance (about 20 percent of total Islamic financial assets in 2017 (IFSB 2018)—have played a key role in infrastructure financing for public and private projects (IIFM 2018). An estimated \$73.1 billion worth of infrastructure *sukuk* was issued by more than 10 countries between 2002 and the third quarter of 2015. Malaysia dominated the market (61 percent), followed by Saudi Arabia (30 percent) and the United Arab Emirates (7 percent) (MIFC 2015).<sup>6</sup> The well-established project *sukuk* market, the depth of liquidity provided by domestic investors, and the long tenors available means that project *sukuk* are often the financing instrument of choice for independent power producers in the Islamic world (IIFM 2018).

Green *sukuk* could be an innovative way of financing green infrastructure. It has the potential to become a new asset class targeting both Islamic and socially responsible investors. The Saudi Electricity 2013 *sukuk*—with a tenor of 30 years and an issuance size of \$1 billion—demonstrated investors' appetite for long-term infrastructure paper. The first issuances of green *sukuk*, in Malaysia, demonstrated market acceptance of long-tenored green infrastructure *sukuk*.<sup>7</sup>

This paper attempts to show how Islamic finance could be positioned as an effective financing mode that embeds the concept of sustainability in infrastructure projects (specifically renewable energy projects) to achieve the SDGs, especially in the poorest countries in SSA. To do so, it provides a roadmap for the development of a green *sukuk* market based on the success factors of existing *sukuk* and green bond markets. The paper discusses how this roadmap can be deployed in SSA, by leveraging regional financial integration initiatives, particularly efforts by the Union Economique et Monétaire Ouest Africaine (UEMOA).

The roadmap tackles three key objectives—maintaining financial stability, meeting climate finance needs, and promoting Islamic financing—by leveraging regional financial

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<sup>3</sup> Islamic finance has great potential in SSA, which hosts a growing share of Muslims. A report by the Pew Research Center projects the share of the world's Muslims living in SSA to increase from 16 percent in 2015 to 27 percent in 2060, surpassing the Middle East and North Africa as the region with the second-largest Muslim population (after Asia Pacific) in the next 20 years (Pew Research Center 2017).

<sup>4</sup> *Takaful* is Islamic and Sharia compliant form of insurance. A cooperative system of reimbursement or repayment in case of loss.

<sup>5</sup> *Sukuk* structures are based on Islamic legal contracts and depend on the size of the projects financed, the obligors' risk appetite, and the nature of the underlying assets. As *sukuk* involve a transfer of assets (in the form of a true sale or a sale of beneficial ownership) to the issuing entity, a trust or a special purpose vehicle is often used.

<sup>6</sup> The *sukuk* market in Malaysia is unique in that retail investors are prepared to put resources into greenfield ventures (Ho and Wong 2017).

<sup>7</sup> Issues included the 16-year green *sukuk* by Tadau Energy (Edra Power) in 2017, the 18-year green *sukuk* by Quantum Solar Park (Semenanjung Sun BHD) in 2017, and the 18-year green *sukuk* by Mudajaya Group Berhad (Sinar Kamiri) in 2018.

integration initiatives. By contributing to mainstreaming and building green infrastructure, this paper also demonstrates how such innovation in infrastructure financing could foster the universalization of Islamic financing in sectors and regions with development financing gaps. The paper discusses how social innovation can be associated with environmental responsibility and economic viability in order to promote responsible and universal Islamic finance.<sup>8</sup>

The paper is structured as follows. Section 2 discusses the role of debt capital markets in meeting climate finance needs and promoting financial stability. Section 3 describes the potential of green *sukuk* and its impact on sustainable development. Section 4 provides a roadmap for the development of green *sukuk* in SSA. Section 5 provides concluding remarks.

## **2. Debt Capital Markets, Climate Finance, and Financial Stability**

International mobilization to tackle climate change reflects efforts to implement the 2030 agenda on sustainable development and the Paris climate change agreement. The SDGs give a central place to environmental issues through the implementation of objectives directly related to the preservation of the planet that take into account the equilibrium of the ecosystem and the well-being of humans. SDG 7 (on clean and affordable energy) is directly linked to the development of renewable energies and to guaranteeing inclusive access to reliable, sustainable, modern, and affordable energy services.

Green energy projects are capital intensive, requiring long investment horizons. Barriers—including higher upfront costs, higher perceived risk, and longer investment timelines than fossil fuel-based alternatives—constrain private investment in clean energy infrastructure (OECD 2014).

The financial industry can play a critical role in building a stable and prosperous economy when it is managed with accountability. Capital markets are a key segment of this industry. Their role is to mobilize the resources needed to finance projects and activities by connecting investors and issuers, whether private, public, or semi-public. Bond markets complement banks and stock markets in deepening the financial market of an economy, which directly affects economic growth (Thumrongvit, Kim, and Pyun 2013). In developed bond markets, institutional investors (banks, pension funds, insurance companies) dominate the investor base. In contrast, in emerging markets, banks and financial institutions are the largest investors (IOSCO 2011).

The global bond market is estimated at \$90 trillion (CBI 2016a). It has the potential to bridge the climate finance gap by mobilizing debt financing from a wider investor base than only banks. Institutional investors generally seek stability and yield. Historically, they have shown a strong appetite for long-term debt and project financing with proven and stable cash flow (Norton Rose Fulbright 2012).

### ***The Green Bond Market***

For more than a decade, the World Bank Treasury has been developing innovative financial instruments to connect investors with the purpose of particular financings. It has done so

---

<sup>8</sup> Social innovation implies social equity, inclusion, and the meeting of the needs of vulnerable groups without compromising the well-being of future generations.

by creating products such as green bonds and focusing on project impacts when communicating with investors about all World Bank bonds (World Bank 2018b).

In 2007 and 2008, it introduced green bonds, in response to the growing demand for investment opportunities that incorporate environmental, social, and governance (ESG) criteria and have sustainable impact. As part of its Strategic Program for Development and Climate Change, the World Bank worked with Skandinaviska Enskilda Banken AB to develop the concept of green bonds. The concept is based on five pillars: simplicity, governance, credibility, traceability, and transparency.

A green bond is a bond that provides funding for green projects, such as renewable energy, low-carbon transport, and other low-carbon projects that can contribute to climate change adaptation or mitigation. It is an investment vehicle that integrates the fiduciary element of fixed-income instruments with an awareness of mitigation and adaptation to the climate, thus providing investors with climate-related investments. Green bonds have the same characteristics as traditional bonds but with obligations on the use of proceeds.

### *Types of green bonds*

The Climate Bonds Initiative (CBI) distinguishes four categories of green bonds:<sup>9</sup>

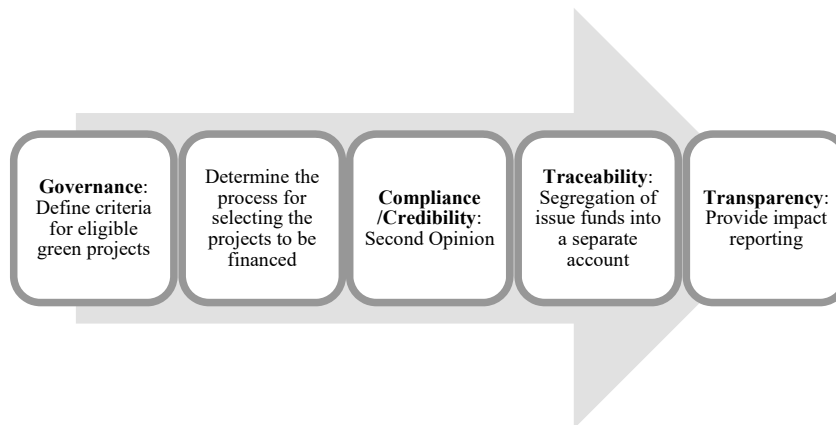
- Green use of bond proceeds: A debt obligation with recourse to the issuer that ring-fences proceeds in a subaccount to ensure traceability.
- Green use of proceeds revenue bonds: An obligation without recourse to the issuer; recourse is to the financial flows arising from the project in which the proceeds of the issue of the bond are invested.
- Green project bonds: A project bond with direct exposure to the risk of the project without recourse to the issuer; proceeds are allocated to one or more specific projects.
- Green securitized bonds: A bond collateralized by one or more specific eligible projects and assets.

The CBI also distinguishes labelled green bonds from unlabeled ones. Labelled green bonds are bonds whose proceeds are earmarked for green projects and designated accordingly (CBI 2016). Unlabeled green bonds meet certain criteria, such as investing in projects with lower CO<sub>2</sub> emissions, but do not meet all the characteristics of green bonds, such as the segregation of funds and direct financing of green projects. Figure 1 summarizes the key principles of the green bond process.

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<sup>9</sup> <https://www.climatebonds.net/market/explaining-green-bonds>.

**Figure 1: Key principles of the green bond process**



Green bonds have become popular in many jurisdictions, and the market has grown to attract municipalities, corporations, and multilateral development banks. The European Investment Bank, the International Finance Corporation, the African Development Bank, and the Asian Development Bank as well as municipalities and municipality-linked public entities in France, Norway, South Africa, Sweden, and the United States have issued green bonds. The main investors are pension funds and other institutional investors, but some green bond issues have also been tailored for retail investors.

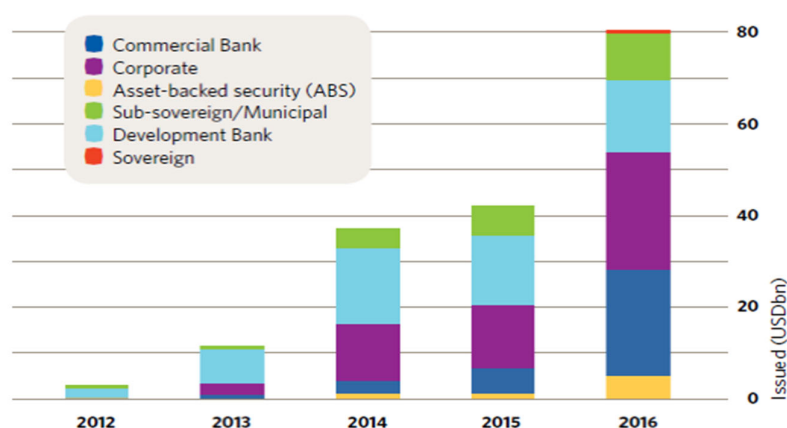
Since the COP 21 in Paris, green bonds have been considered an investment option that can help countries meet their financial commitments on climate change. The International Energy Agency (IEA) estimates that transitioning to a low-carbon economy compatible with the objective of maintaining a rise in temperatures of no more than 2°C will cost \$500 million a year by 2020 and \$1 trillion annually between 2020 and 2050 (IEA 2014)

Growing investor comfort with simple green bonds allowed the World Bank Group to develop green growth bonds—green bonds linked to an ethical equity index. In March 2017, the World Bank Treasury, working with BNP Paribas, launched a pioneering index-linked bond to support the SDGs that is linked to an equity index developed by Vigeo Eiris and Solactive (World Bank 2018b). The index has been curated to offer a framework for equity investment in projects to assist with the achievement of the SDGs. It includes 50 companies that, based on an analysis by Vigeo Eiris, incorporate global ESG standards, are not involved in contentious activities or dangerous controversies, are not among the most intensive carbon emitters (unless they have a robust energy transition strategy), and contribute to the SDGs through their behavior and participation in sustainable investment products (World Bank 2018b). The first World Bank SDG-linked bonds linked to this index raised about \$200 million through capital-protected notes issued in two tranches, with 15- to 20-year maturities.

## Size of the market

The market has also witnessed the issuance of social impact bonds and other thematic bonds.<sup>10</sup> These issuances reflect the rising awareness of environmental and social impacts and the existence of a wider ethical institutional investor base. The Climate Bonds Initiative (CBI) estimates that \$694 billion of climate-aligned bonds were outstanding at the end of 2016, an increase of \$496 billion over 2015. The figure includes issuances from 780 issuers across CBI's climate themes (transport, energy, buildings and industry, water, waste and pollution control, and agriculture and forestry). Among these issuances, \$118 billion (17 percent of the total outstanding) are labelled green bonds. The rest are not labelled as green bonds but are climate aligned. Energy represents 19 percent of climate-themed issuances; 78 percent of the total is investment grade, with the majority of bonds having tenors of 10 years or more. Most issues are in U.S. dollars, Chinese yuan, or euros, but green bonds are becoming more common in other currencies as well (CBI 2016a). Figure 2 illustrates the evolution of the green bond market since 2012.

Figure 2: The green bond market, 2012–16



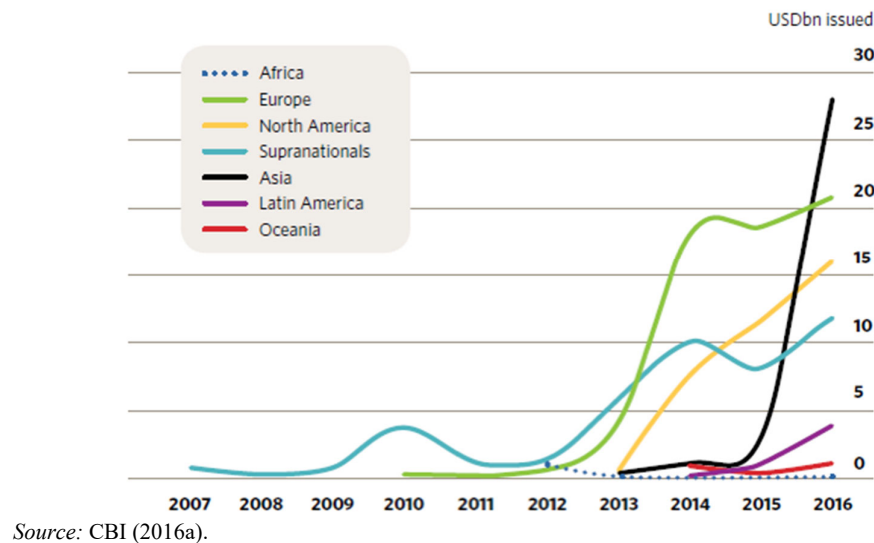
Source: CBI (2016a).

Figure 3 reveals the underdevelopment of the green bond market in Africa relative to Europe, North America, and Asia. In Africa the African Development Bank leads green bond issuances. Morocco issued green bonds for the first time in 2016, and other countries (including Kenya, Nigeria, and South Africa) announced their plans to tap the green bond market.<sup>11</sup>

<sup>10</sup> A thematic bond is a bond that generates social or environmental impacts in addition to financial returns. Thematic bonds have the same characteristics as traditional bonds but carry obligations regarding the use of their proceeds. Green bonds (which have a direct impact on the environment) are often distinguished from socially responsible bonds related to sectors such as education, immunization, climate awareness, health, poverty reduction, and microfinance.

<sup>11</sup> In November 2016, the Moroccan Agency for Solar Energy, a privately-owned company with public funding, issued DH 1.15 billion (\$115 million) of green bonds. The issue was guaranteed by the state and certified by Vigeo. It consisted of a private placement with Al Barid Bank, the Moroccan pension fund; Attijariwafa Bank; and the Central Reinsurance Company. Other Moroccan issuers of green bonds in 2016 included Crédit Agricole (DH 500 million) and BMCE Bank Africa (DH 500 million). In October 2016, the Moroccan Capital Market Authority published a guide on green bonds, in order to facilitate the development of the market.

**Figure 3: Issuance of green bonds, by region, 2007–16**



### ***Challenges facing green bonds***

Review of global green bond initiatives reveals several challenges for the development of the market. Although the market is still developing, these observations can serve as takeaways for the development of a green *sukuk* market.

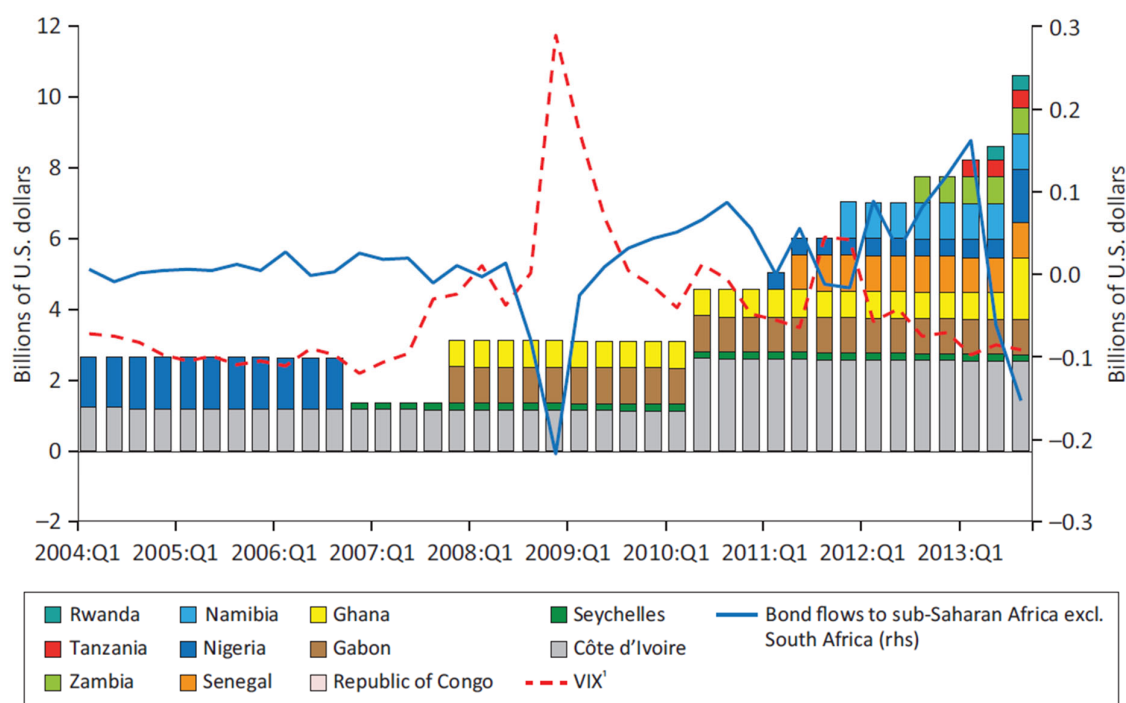
The green bond market faces a range of barriers, including underdeveloped domestic bond markets; insufficient pipelines of bankable and standardized green projects; the lack of commonly accepted green standards and definitions; issuer’s views on costs versus benefits; and a general scale mismatch between projects, bonds, and institutional investors (OECD 2016). Challenges to scaling up the market include the lack of awareness of benefits of green bonds and existing international practices; the lack of local green bond guidelines; the transactions costs of meeting the requirements underpinning the green bond market; the lack of green bond ratings, indexes, and listings; the difficulties international investors face accessing local markets; and the lack of domestic green investors (G20 2016).

### ***Debt Capital Markets and Financial Stability***

A financial system that includes deep and liquid local currency bond markets (LCBMs) alongside banking markets tends to enhance financial stability, by promoting macroeconomic policies, implementing development programs, and mitigating the impact of financial crises and external shocks on the domestic economy (IMF 2014; Laeven 2014). Except in South Africa, LCBMs are either not well developed or are in their infancy in SSA (Allen, Otchere, and Senbet 2011; IMF 2014). Only a few SSA sovereigns have tapped the international bond market (figure 4).<sup>12</sup>

<sup>12</sup> A 2014 IMF study lists 11 sovereigns in SSA that accessed the international bond market between 2004 and 2014: The Republic of Congo, Côte d’Ivoire, Gabon, Ghana, Namibia, Nigeria, Senegal, Seychelles, South Africa, Tanzania, and Zambia.

**Figure 4: Sovereign bond issuances in Sub-Saharan Africa, by country, 2004–13**



Source: IMF (2014).

Various structural constraints have impeded the development of LCBMs in SSA, making it difficult for countries except South Africa to raise affordable long-term financing in their shallow domestic markets (IMF 2014). These constraints include the limited and undifferentiated investor base, concentrated largely in domestic banks, and undeveloped secondary. In order to list on the Bourse Régionale des Valeurs Mobilières (BRVM), all bond issues must be guaranteed by an approved financial institution, a development financial institution, a guarantee fund, or the parent company if the issuer is a subsidiary. These requirements may be one reason why most corporate issues in francophone SSA are privately placed and remain unlisted (Allen, Otchere, and, Senbet 2011).

### 3. Islamic Finance and Sustainable Development: The Potential of Green *Sukuk*

Considered a form of ethical, inclusive, and socially responsible finance, because it connects the financial sector with the real economy and promotes risk sharing, partnership-style financing, and social responsibility, Islamic finance has emerged as an effective tool for financing development worldwide (Asutay 2013). Participants at the Third International Conference on Financing for Development in Addis Ababa in July 2015 identified it as a promising alternative to traditional sources of funding that should be used to work toward achievement of the SDGs (Ahmed et al. 2015).

#### *Benefits of Islamic Finance*

Islamic finance is attracting increasing attention as a potential way to help mitigate the institutional barriers and promote financial development in SSA. Islamic finance promotes transactions that are based on profit and loss sharing, which contributes to macroeconomic and financial stability (IMF 2016; IFSB 2010). Greater dependence on the values



underlying Islamic finance could increase financial sector stability (Ahmed et al. 2015). The philosophies of sharing risk and linking finance to the real economy would limit the amount of debt that can be created as it cannot exceed the value of the physical asset. The barring of derivative instruments for speculation would make the system comparatively resilient and stable (Ahmed et al. 2015).

Immediately after the global financial crisis, Islamic banks were more resilient and attained higher credit and asset growth than conventional banks (Hasan and Dridi 2010). Islamic banks were evaluated more positively by rating agencies in the postcrisis era. In the period preceding the crisis (1995–2007), Islamic banks had higher capitalization and liquidity reserves than conventional banks, demonstrating more stability (Beck, Demirgüç-Kunt, and Merrouche 2010).

There is concern that the Islamic financial sector is imitating its conventional counterpart and could encounter similar problems (Ahmed et al. 2015). In particular, Islamic financial institutions seem to be using mainly debt-based contracts; the use of equity-based modes is minimal (Khan 2010; Asutay 2012; Mansour, Ben Jedida, and Majdoub 2015). Expanding the role of Islamic finance in equity-based capital markets would require increasing its share in both stock and *sukuk* (bond) markets.

### *Types of Islamic Financial Instruments*

Islamic financial instruments can be divided into three categories (ISRA 2016; Asutay 2015):

- Exchange-based contracts, including sale-based contracts (*murabahah* [mark-up sale]); *istisna'* [manufacturing sale]; and *salam* [forward sale]) and lease-based contracts (*ijara*).<sup>13</sup>
- Agency contracts (*wakalah*)
- Partnership contracts (*musharakah* and *mudarabah*).

*Sukuk* can be structured based on several types of contracts. The Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI) distinguishes 14 *sukuk* structures. The most frequently used are *murabahah*, *ijara*, *wakalah*, *istisna'*, *musharakah*, *mudarabah*, and *salam*.

### *Size of the Market for Islamic Financial Assets*

Islamic financial assets increased at an annual rate of 17 percent between 2009 and 2013 and are estimated to have surpassed \$2 trillion in 2014 (The Economist 2014). This rapid increase explains their increasing significance as an alternative mechanism in infrastructure financing (World Bank 2013).

The outstanding performance of the Islamic finance industry between 2009 and 2013 reflects the impressive growth of the Islamic banking sector, which dominates the global portfolio of Islamic financial assets (accounting for 80 percent of total assets in 2013).

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<sup>13</sup> In a *musharaka* contract, two or more parties agree to contribute to the capital of the partnership (in cash or kind) and share profits and losses. In a *mudaraba* contract, the investor or capital provider (*rabb ul Mal*) contributes money and the manager (*mudarib*) provides work in exchange for a share of the profits. The investor bears all the losses.



Expansion of the Islamic banking sector took place through the establishment of new institutions as full-fledged stand-alone banks, the creation of subsidiaries, and the opening of Islamic banking window operations by conventional banks. It led to the widening of the range of financial services offered (IFSB 2014).

Islamic finance is still in its infancy stage in Africa. Egypt and Sudan are established markets, but few initiatives have emerged in North, East, or West African countries.

Islamic financial products accounted for about 15 percent of total financial assets in SSA at the end of 2014, and *sukuk* represented 5 percent of the region's Islamic financial assets (IMF 2016). The region accounts for only 1 percent of global Islamic finance assets.

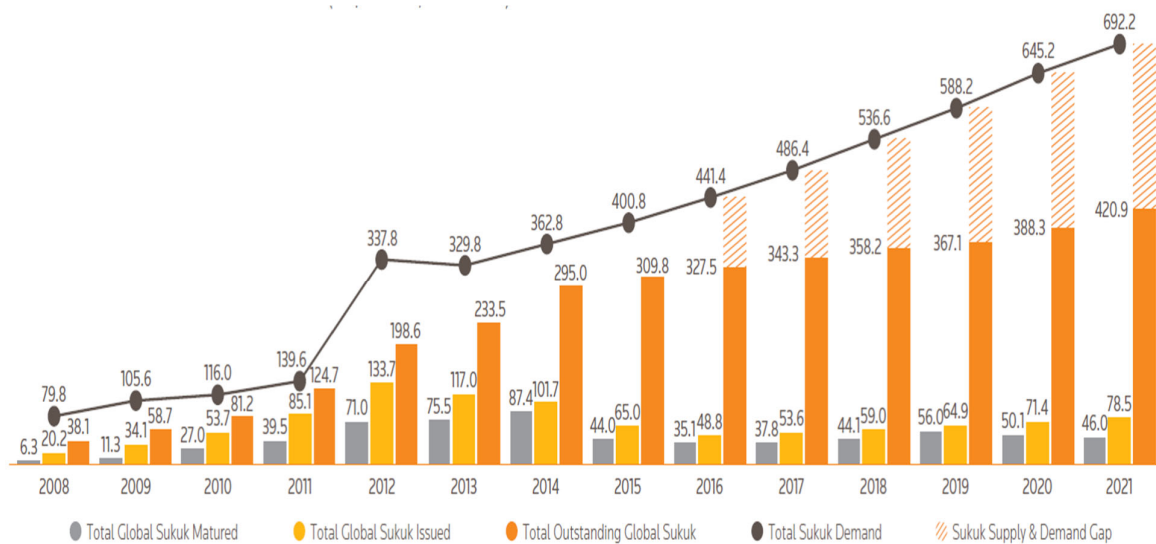
### ***The Sukuk Market***

*Sukuk* are defined as certificates of equal value representing undivided ownership shares of tangible assets, usufructs, and services or (in the ownership of) the assets of particular projects or special investment activity (AAOIFI 2008). Bond markets in traditional finance are customarily debt based. In contrast, *sukuk* can take various forms, including partnership based (*musharakah* and *mudarabah*). The risk-sharing features of these instruments can potentially enhance the stability of the financial markets (Ahmed et al. 2015).

The *sukuk* market is one of the fast-growing segments of the Islamic finance industry, having grown at a compound annual growth rate of 5.8 percent for the period 2012-2016 (ICD-TR 2017). *Sukuk* accounted for 19.5 percent of global Islamic finance assets at the end of 2017 (IFSB 2018).

Since the first *sukuk* issuance, in 1990, by Shell Mds Bhd in Malaysia, the market has developed significantly, with new entrants from non-Islamic sovereigns and corporates and increasing cross-border transactions. *Sukuk* have increasingly become an important source of funding for a few countries in Asia, Europe, and Africa. The total amount of *sukuk* outstanding in 2017 reached \$434.8 billion (IFSB 2018), and global *sukuk* issuance is expected to reach \$395.5 billion by 2020 (ICD-TR 2015). Figure 5 shows the evolution of demand for and supply of *sukuk* since 2008, with projections through 2021.

Figure 5: Demand for and supply of *sukuk*, 2008–21



Source: Thomson Reuters (2017).

Two features of *Sukuk* position it as a viable option for financing sustainable development projects (Aassouli 2016). First, the asset-backing requirement facilitates the link to the real economy, widening the scope of sectors that can be financed to include projects that target climate change, refugees, women’s empowerment, small farmers, education, access to clean energy, and so forth. Second, *sukuk* can be structured using single or hybrid Islamic contracts, such as *wakalah* (agency), *musharakah* and *mudarabah* (partnership), and *ijara* (leasing), among others. *Ijarah* was the most popular structure in international *sukuk* issuances between 2010 and 2015, with a share of 35 percent. Starting in 2015, there was a major shift from *ijarah* to *wakalah*, which represented 51 percent of international *sukuk* issuances in 2017. In domestic markets, *murabahah* has historically been the most dominant structure (63 percent between 2010 and 2015), followed by *ijarah* (about 16 percent for the same period) (IIFM 2018).

In principle, this flexibility offers tremendous opportunities to innovate and to address specific financing needs (although the complexity may lead to a lack of standardization and therefore higher transactions costs). However, analysis of the global *sukuk* market shows a lack of diversification. At the end of 2014, governments accounted for 37 percent of outstanding *sukuk*, followed by financial services (22 percent) and power and utilities (12 percent). Education was a new entrant in the *sukuk* market in 2014, with only 1 percent of global issuance (Thomson Reuters-Barwa 2015).

Several factors contribute to the lack of standardization and liquidity of the *sukuk* market. They include the buy and hold attitude of investors, the lack of new players and limited supply, the underdevelopment of domestic fixed-income markets, the bond–*sukuk* trade-off among most investors, the nontradability of certain structures, and prices and market volatility.

The market also witnessed the beginning of thematic issuances, such as socially responsible *sukuk* (e.g. the *sukuk* by the International Finance Facility for Immunisation (IFFIm)),<sup>14</sup> which could influence future developments of the *sukuk* market and direct efforts toward Islamic finance. These thematic issuances may mark the launch of a themed *sukuk* market similar to the thematic bond market, where issues that focus on water, vaccines, microfinance, green banking, women, and similar themes have been developed to meet specific investor and financing needs.

### **Green Sukuk Initiatives**

A few green initiatives were launched in recent years. They include the following:

- The 2012 *sukuk* of the Australian companies Solar Guys International and Mitabu, worth \$100 million, for the financing of a 50-megawatt photovoltaic project in Indonesia, the first phase of the Indonesian program “One Solar Watt per Person”
- The 2012 *sukuk Orasis* instrument for the financing of solar energy projects in France
- The 2012 establishment of a Green Sukuk Working Group in the United Arab Emirates (by CBI, the Clean Energy Business Council of the Middle East and North Africa, and the Gulf Bond and Sukuk Association), which aims to design transactions in compliance with the climate bonds standards and facilitate the development of a green *sukuk* market through standardization and awareness.

In 2014 the Malaysian Securities Commission developed a framework for sustainable and responsible investment (SRI) *sukuk* that encompass environment and social elements to facilitate the financing of various sustainable and responsible investment initiatives. It addresses five areas: utilization of proceeds, eligible SRI projects, disclosure requirements, appointment of independent experts, and reporting. Eligible projects under the SRI framework include natural resources, renewable energy and energy efficiency, community and economic development, and *waqf* property/ assets.

The Kazanah RM 1.27 billion (USD 320.8 million) *sukuk* program and the Tadau Energy green certified *sukuk* were established under the SRI *sukuk* framework. These initiatives, remain limited, however. They need to be expanded, with the support of governments and development finance institutions.

### **Box 1: The Tadau Energy Green *sukuk***

On July 27, 2017, Tadau Energy Sdn Bhd (Tadau Energy), a subsidiary of Edra Power Holdings Sdn Bhd, a China-owned holding, issued RM 250 million of SRI *sukuk*, the first green *sukuk* issued in Malaysia. The *sukuk* have a tenure of 2–16 years and have been assigned a long-term rating of AA3 by RAM Rating Services Berhad. Proceeds from the Tadau *sukuk* will be used to finance the construction and maintenance of solar photovoltaic (PV) plants with a total capacity of 50 Mega Watt in Kudat (the Sabah Project). Tadau has two 21-year power purchase agreements with Sabah Electricity Sdn Bhd (SESB) to design,

<sup>14</sup> The IFFIm *sukuk* were based on the *murabaha* structure. The issuance proceeds were allocated for immunization programs in the world’s poorest countries through GAVI, the Vaccination Alliance.

construct, own, operate, and maintain the plants. The *sukuk* were issued under a framework jointly developed by the Securities Commission, Bank Negara Malaysia, and the World Bank Group.

Several incentives were put in place to attract green issuers:

- Tax deduction until the year of assessment (2020) on the issuance costs of the *sukuk* were approved, authorized by, or lodged with the Securities Commission.
- Tax incentives were provided for green technology activities in energy, transportation, building, waste management, and supporting services activities.
- Financing incentives under the Green Technology Financing Scheme were provided, with the allocation of RM5 billion through 2022.

Tadau Energy's green *sukuk* framework has been certified by the Oslo-based Centre for International Climate and Environmental Research (CICERO), which rated it "dark green," its highest rating, granted to projects and solutions that correspond to the long-term vision of a low-carbon and climate-resilient future.

In principle, the conformity of *sukuk* with *shari'ah* according to the *maqasid*<sup>15</sup> theory implies that social outcomes should be an integral part of the outcomes expected to be produced. *Sukuk* should be qualified as green if it finances green projects (renewable energy, green transport, energy efficiency, and so forth). Transparency and impact measurement should standardize and facilitate the granting of the green label to *sukuk* (Aassouli 2016).

#### 4. A Roadmap for the Development of Green *Sukuk* in Sub-Saharan Africa

This section proposes a roadmap for the development of a green *sukuk* market and shows how the roadmap can be deployed in SSA by leveraging regional financial integration initiatives.

##### *Regional Financial Integration in Sub-Saharan Africa*

SSA has been heavily dependent on external grants and concessional loans for funding capital spending and government deficits; only a few countries have access to global capital markets (Mu, Phelps, and Stotsky 2013). Since the global financial crisis, SSA countries have increasingly tapped international investors as an additional source of sovereign financing. Doing so has tremendous potential benefits, allowing countries to supplement low domestic savings, further diversify the investor base, extend the maturity profile of debt profiles, and help address declining access to concessional financing (Battaile, Hernandez, and Norambuena 2015).

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<sup>15</sup> *Maqasid* means objective, principle, intention, end, *telos* (in Greek), or finality (Ibn 'Ashur 2014). *Maqasid* are based on multidimensional and ethical considerations, including environmental ethics, that lead to overall human well-being. The science of *maqasid al-shari'ah* aims to analyze the purpose behind the rules and prescriptions of Islamic law. Chapra (2000) states that *maqasid al-shari'ah* implies human well-being in the sense that whatever economic and financial action is taken, human well-being must be sought. Auda (2008) describes the *maqasid* as the group of divine intentions and moral concepts that Islamic law is based on, such as justice, human dignity, free will, social cooperation, chastity, magnanimity, and facilitation. He argues that *maqasid* are the most important intellectual means and methodologies for Islamic reform and renewal.

African markets are generally small and unsophisticated, which creates inefficiencies and barriers to raising competitive financing. To develop domestic markets, countries have formed regional economic communities (RECs) with different regional agendas. Fourteen RECs are in operation, with all 47 SSA countries belonging to at least one.<sup>16</sup>

Only four African RECs engage in regional financial integration (the process of broadening and deepening financial links within a region) (Wakeman-Linn and Wagh 2008).<sup>17</sup> They include the East African Community (EAC), the Common Monetary Area, the Union Economique et Monétaire Ouest Africaine (UEMOA), and the Economic Community of Central African States (CEMAC) (Frey and Volz 2013). The development of green *sukuk* could build on these trends and further enhance regional financial integration while mitigating climate change, reducing energy poverty, and promoting Islamic finance.

Development of green *sukuk* in SSA could build on four forms of regional financial integration (figure 6):

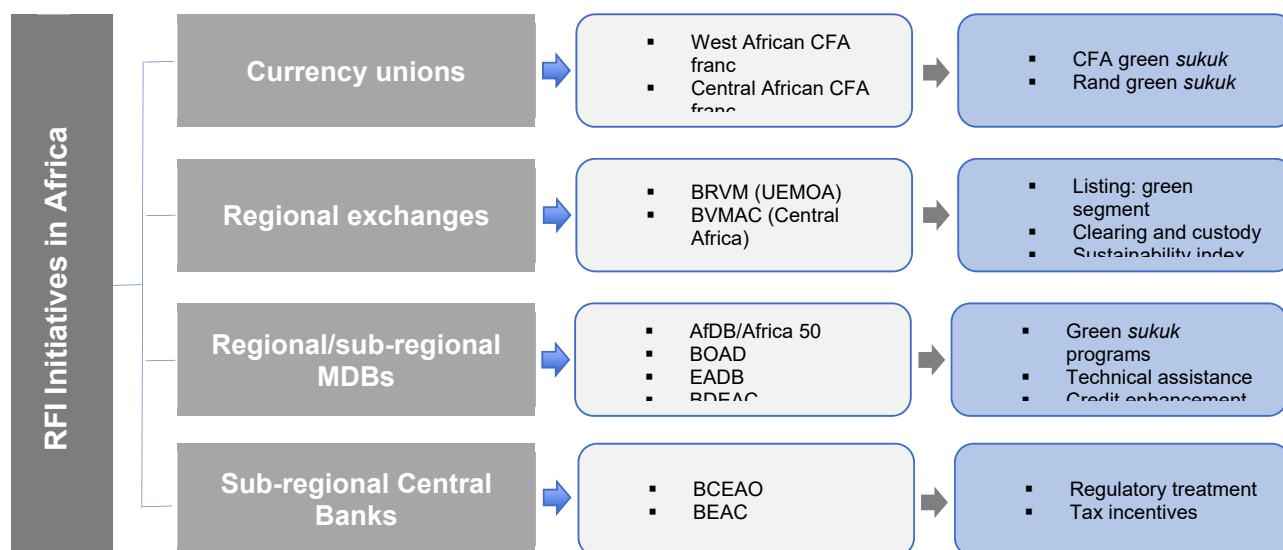
- **Currency unions:** Green *sukuk* could leverage currency unions in Africa to foster regional integration to tackle climate change.
- **Regional exchanges:** Listing of green *sukuk* on regional exchanges would promote credibility and transparency.
- **Regional/subregional multilateral development banks:** Regional and subregional multilateral development banks could implement green *sukuk* programs. The African Development Bank (AfDB) already has a green bond program.
- **Subregional central banks:** Subregional central banks, such as the Central Bank for the West African States (BCEAO) and the Bank of Central African States (BEAC), could promote the tradability of green *sukuk* through preferential regulatory treatment and their qualification under international regulations such as Basel III.

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<sup>16</sup> The 14 RECs are the Communauté Economique et Montaire de l'Afrique Centrale (CEMAC), the Community of Sahel-Saharan States (CEN-SAD), the Common Monetary Area (CMA), the Commission de l'Océan Indien (COI), the Common Markets of Eastern and Southern Africa (COMESA), the East African Community (EAC), the Economic Community of Central African States (ECCAS), the Economic Community of West African States (ECOWAS), the Intergovernmental Authority on Development (IGAD), the Southern Africa Customs Union (SACU), the Southern African Development Community (SADC), the Union Economique et Monétaire Ouest Africaine (UEMOA), the Union du Maghreb Arabe (UMA), and West African Monetary Zone (WAMZ)

<sup>17</sup> Other regional integration initiatives include the Continental Free Trade Agreement (CFTA), The which aims to (a) expand intra-African trade through better harmonization and coordination of trade liberalization and facilitation regimes and instruments across RECs and across Africa in general, (b) create a single market for goods and services, (c) enhance competitiveness at the industry and enterprise level, and (d) resolve the challenges of multiple and overlapping memberships (<https://au.int/en>).

**Figure 6: Regional financial integration instruments that could promote green *sukuk* in Africa<sup>18</sup>**



### *Components of the Roadmap for Sub-Saharan Africa*

Green *sukuk* can be used to tackle the three dimensions of sustainable development: energy security, energy poverty, and environmental responsibility. *Sukuk* and thematic bonds share a key principle: the link to the real economy (although they differ in other ways, see box 2). This principle—one of the pillars of Islamic finance—requires the allocation of the issuance proceeds to predefined activities or projects. This traceability obligation promotes accountability and requires transparency.

### **Box 2: Differences between *sukuk* and thematic bonds**

Although they share similar financial characteristics, *sukuk* and thematic bonds differ in several ways:

- Thematic bonds are concerned with the allocation of receipts from the issue to predefined projects with social or environmental impacts, whereas *sukuk* applies to any type of activity in accordance with the principles of *shari'ah*. Assessment of social and environmental impacts is still not developed in the Islamic finance industry in general and the *sukuk* market in particular.
- Thematic bonds represent debt securities of the issuer to their holders, whereas *sukuk* represent ownership (legal or usufruct) of the underlying assets.
- *Sukuk* must be backed by a minimum of tangible assets in order to be tradable, and the value of the underlying assets must be greater than or equal to the value of the issue.

<sup>18</sup> BOAD: West African Development Bank; BRVM: Regional Securities Exchange-West Africa; BCEAO: Central Bank for the West African States; MDBs: Multilateral Development Banks; BVMAC: Regional Securities Exchange-Central Africa; AfDB: African Development Bank; EADB: East African Development Bank; BDEAC: Development Bank of the Central African States; BEAC: The Banks of Central African States

- *Sukuk* may not give rise to the payment of interest. The profits paid to investors are linked to the financial flows generated by the underlying assets.
- *Sukuk* require a *fatwa* issued by a *shari'ah* committee on compliance. Thematic obligations such as green bonds require certification of the environmental impact by a third party.

The development of green *sukuk* would facilitate the achievement of four objectives:

- reducing energy poverty and contributing to achievement of the SDGs, by diversifying funding sources
- positioning Islamic finance as a universal and ethical financing mode and promoting its development in new markets
- helping develop domestic capital markets, attract institutional investors, and access a new investor base
- creating awareness of Islamic financing modes and environmental responsibility.

Figure 7 shows how green *sukuk* can be positioned as a responsible financing mode.

**Figure 7: Green *sukuk* as a responsible financing mode**

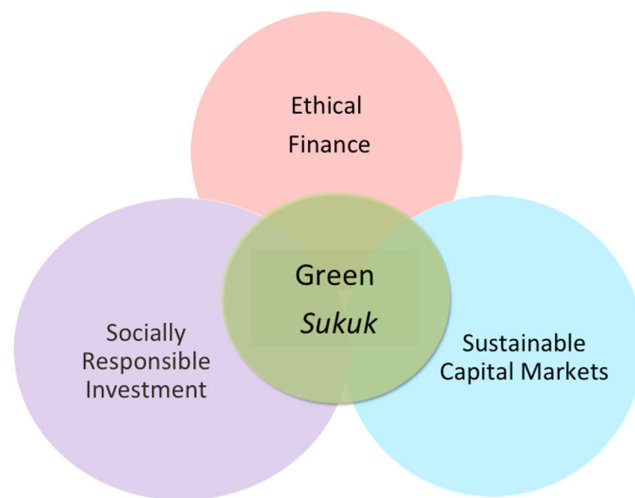
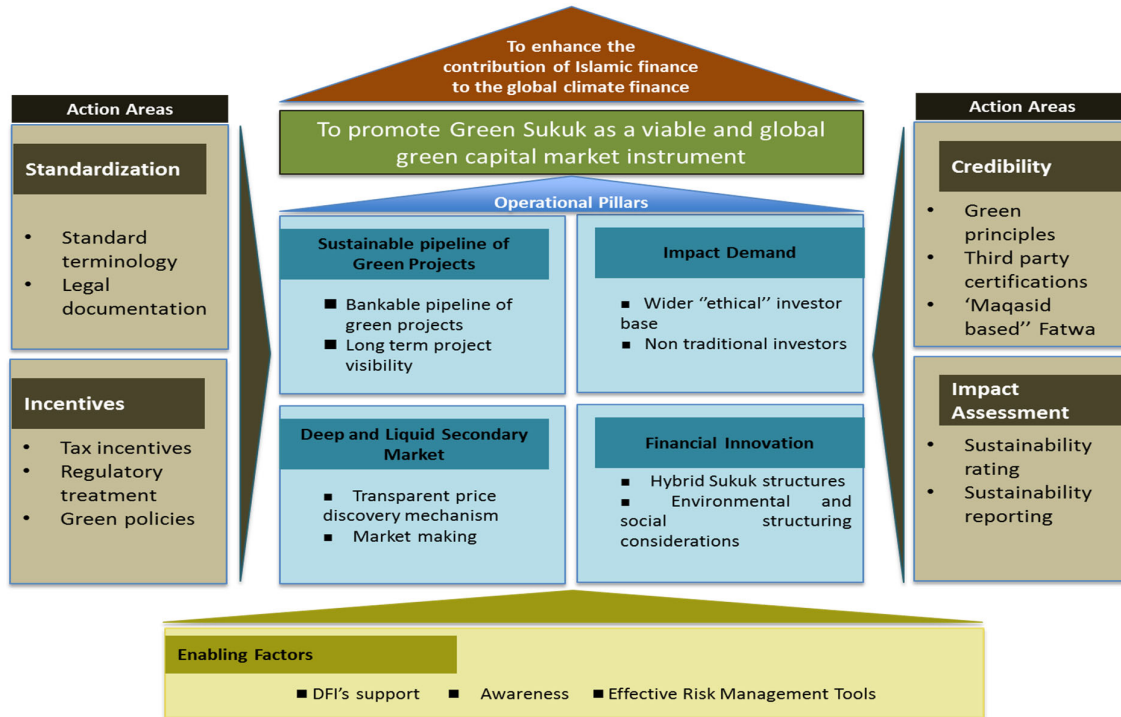


Figure 8 presents a roadmap for the development of green *sukuk*. It is divided into four operational pillars, four action areas, and three enabling factors.

**Figure 8: Roadmap for development of green *sukuk***



## Operational pillars

### *Pipeline of sustainable green projects*

A pipeline of bankable infrastructure projects helps attract private investment by providing information and long-term visibility of projects. Funding sources and mechanisms are responsive to the depth and quality of the project pipeline (G-24 2015). In developed countries, infrastructure project pipelines are usually published by the governments. In emerging economies and developing countries, the infrastructure project pipeline lacks both quantity and quality (G-24 2015). Recent initiatives suggest consolidating project pipelines globally in order to facilitate the private sector investment decision process.

### *Impact demand*

Green projects have a long-time horizon and rely on long-term financing. They require investors (such as pension funds) that are looking for long-term assets to match the profile of their liabilities. Long-term investors prefer legal, tax, and regulatory clarity and well-established market infrastructures (G20/OECD 2016). In conventional markets, a few initiatives have targeted institutional investors with the purpose of engaging them on sustainable and green issues. They include the G20/OECD Task Force on Institutional Investors and the Institutional Investor Group on Climate Change (IIGCC). A recent initiative by the Brisbane G20 leaders' summit led to the creation of the Global



Infrastructure Hub Project Pipeline, a database of future and current government infrastructure projects that allows projects to be tracked from conception to completion (<https://pipeline.gihub.org/>).

### *Deep and liquid secondary market*

A deep and liquid secondary market is important for the development of the *sukuk* market in general and the green *sukuk* market in particular. The liquidity of an instrument is generally measured by trading volume, trading frequency, bid-ask spreads, quote sizes, trade sizes, and price impact coefficients (Petrella and Resti 2017). Tight bid-ask spreads give investors an indication on the efficiency of a market; significant widening of the spread may be a signal of tension in the market.

*Sukuk* investors face a liquidity risk arising from the underdevelopment of the secondary market, which reflects the buy and hold attitude of investors, the lack of *sukuk* supply and new players in the market, the nontradability of certain *sukuk* structures, and the underdevelopment of domestic fixed-income markets. Secondary market *sukuk* volumes could improve as more and more African countries—home to a quarter of the world’s Muslims—enter the *sukuk* market (Thomson Reuters 2017).<sup>19</sup> Larger issuances, a wider and more diversified investor base, maturity, and global interest rate volatility determine the perception of secondary market liquidity of a bond or a *sukuk* (Nienhaus and Karatas 2017). Other factors that could foster the development of a vibrant, deep, and liquid secondary market for green *sukuk* include preferential regulatory treatment, a transparent and well-established price discovery mechanism, and greater *sukuk* supply.

### *Financial innovation*

Financial innovation consists of offering a diversified range of instruments that align the interests of Islamic and socially responsible investors while taking into consideration sustainability pillars when structuring the *sukuk*. It also consists of efficiently mobilizing climate finance funds, including fossil fuel subsidies (see box 3) and public, concessional, and philanthropic funds to attract private sector funds.

#### **Box 3: Reform of fossil fuel subsidies**

The reform of energy subsidies is an important issue to consider when discussing energy transition because of their impact on budgets, economic growth, climate change, and income distribution. Subsidies make investment in the energy sector unattractive and widen the gap between rich and poor (IMF 2013). Eliminating these subsidies releases funds for green investment by stimulating demand for renewable energy. OECD analysis suggest that most countries would realize real income gains of 4 percent by unilaterally eliminating subsidies, in addition to a 10 percent reduction in greenhouse gas emissions by 2050 compared with a normal activity. India and Indonesia are taking the lead in reducing their subsidy bills below \$500 billion by 2014 (IEA 2015). It is important to take into consideration the social impacts of their elimination, especially for the poor. Indonesia’s subsidy reform resulted in the reallocation of fossil fuel subsidies to education, health, and energy projects.

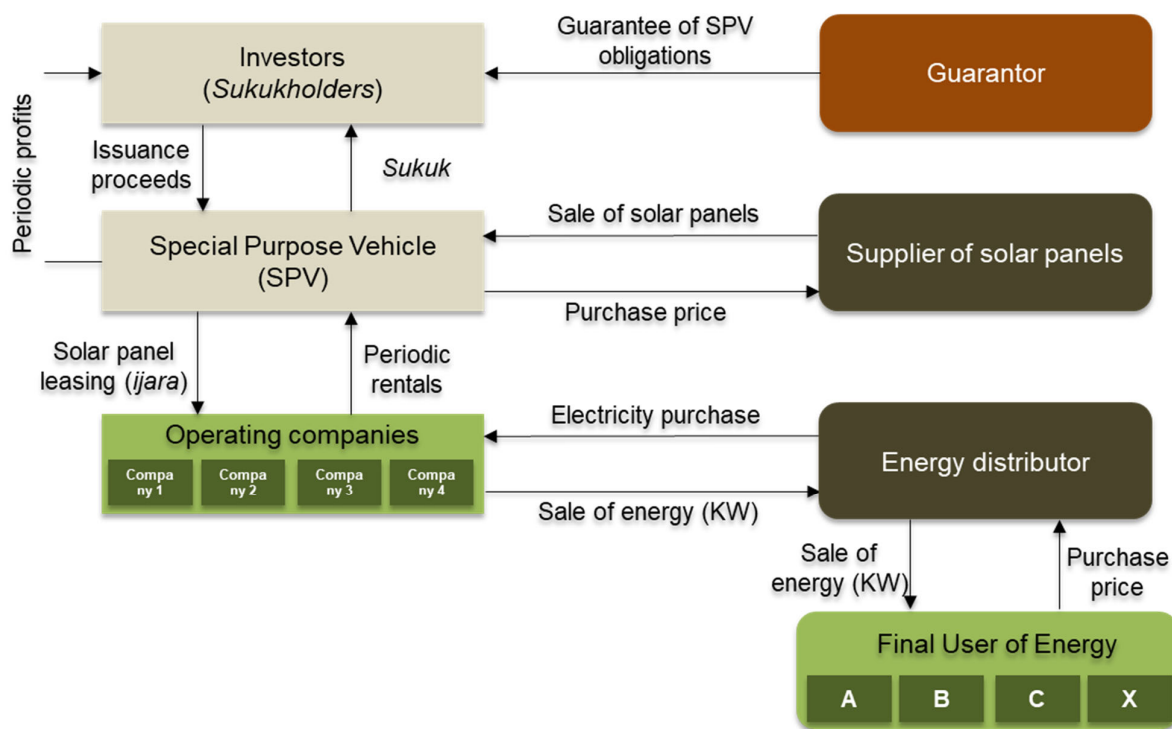
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<sup>19</sup> Côte d’Ivoire, The Gambia, Nigeria, d Senegal, South Africa, Sudan, and Togo have issued *sukuk*; Niger and Kenya are planning to do so.

For large projects, access to project development funds at the preinvestment stage is important. Wind projects, for example, need at least a year of reliable site-specific data on wind resources to assess their viability (World Bank and Climate Investment Funds 2015). These projects require significant initial investment during the development phase, which can be a major constraint, especially for developing countries. They require specific instruments, long-term funding, and public-private partnerships.

One institution that responds to this need is Africa 50, an infrastructure fund set up in Morocco that aims to increase the number of bankable infrastructure projects through participation in financing the early phases of infrastructure projects in Africa. For this type of projects, the *istisna'-ijara* structure (used in the *sukuk* Orasis in France) can be used (figure 9).

**Figure 9: Istisna'-ijarah structure for green sukuk**



An *istisna'* structure is usually combined with a forward lease in order to generate returns for *sukuk* holders during the construction phase. The SGI-Mitabu *sukuk* had a hybrid structure, combining an *istisna'* contract during the construction phase followed by an *ijara* contract for the first 20 years from completion and a *musharaka* contract for the subsequent years. From a *shari'ah* perspective, as an *istisna'* structure involves assets under construction, the *sukuk* cannot be tradable at the initial stages. For this reason, in the Tabreed *sukuk*, for example, the *shari'ah* board required that at least a third of the underlying assets be in a tangible form, so that the *sukuk* could be traded. A tangible asset was added to the portfolio in the form of commodities during the first stage of completion of the plant.

Among the constraints facing low-carbon projects is their relatively small size, which requires the development of aggregation mechanisms to mobilize the necessary financing.

These projects are usually very localized and target bottom of the pyramid populations, mainly in rural areas. The small size of their projects creates difficulties in access to financing.

In conventional markets, green bond issuers have aggregated and securitized small projects in order to access capital at a lower cost.<sup>20</sup> Assets that could be securitized include mortgages on green buildings, loans for energy efficiency upgrades, and cash flows arising from solar and wind assets, although they do not allow the secondary market tradability of the *sukuk*, as they represent receivables. In the case of green *sukuk*, a *wakala*<sup>21</sup> enables governments to pool small projects like biomass, clean cooking energy, or solar energy and to benefit from the economies of scale to provide competitive and inclusive financing. Microfinance institutions, such as Grameen Shakti in Bangladesh, which aims to popularize solar home systems is another potential example. *Wakala sukuk* can be backed by a portfolio of mixed assets (tangible and intangible) that can grow over time, giving issuers flexibility in selecting the underlying assets.

The West African Development Bank (BOAD) could implement a CFA *wakala sukuk* program targeting small-scale renewable energy projects member of UEMOA.<sup>22</sup> UEMOA is part of the Economic Community of West African States (ECOWAS), whose mission is to promote economic integration among member countries in various areas, including energy and infrastructure. UEMOA is fostered by regional institutional arrangements that facilitate the integration of its financial markets, including the Central Bank of West African States (BCEAO), BOAD, and BRVM.

The CFA is used by eight West African countries (Benin, Burkina Faso, Guinea-Bissau, Côte d'Ivoire, Mali, Niger, Senegal, and Togo). It is pegged to the euro and guaranteed by the French Treasury. Many African issuers are issuing bonds in CFA in order to gain regional market share by promoting intraregional trading.

BOAD is the first non-sovereign issuer in the regional capital market, which remains the preferred area for its resource mobilization. It has an investment-grade rating (BBB by Fitch, Baa1 by Moody's).

Regional development banks can play a key role in pooling and blending financial resources for climate finance. Climate finance, energy, and economic and financial

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<sup>20</sup> Examples of conventional green asset-back securities include the following (CBI 2016):

- Hannon Armstrong issued \$100 million worth of low-carbon asset-backed securities in December 2013. The securities were backed by cash flows from 100 individual wind, solar, and energy efficiency projects, all with investment-grade credit profiles.
- SolarCity issued \$54.4 million worth of securities in 2016, backed by cashflows from power purchase agreements for the electricity generated by a bundle of residential rooftop PV installations of about 5,000 of their customers.
- Renovata America, a financing provider of the California-based Property Assessed Clean Energy (PACE), issued \$217.5 million of securities in February 2016, backed by 9,252 PACE loans levied against residential properties in 27 California counties.

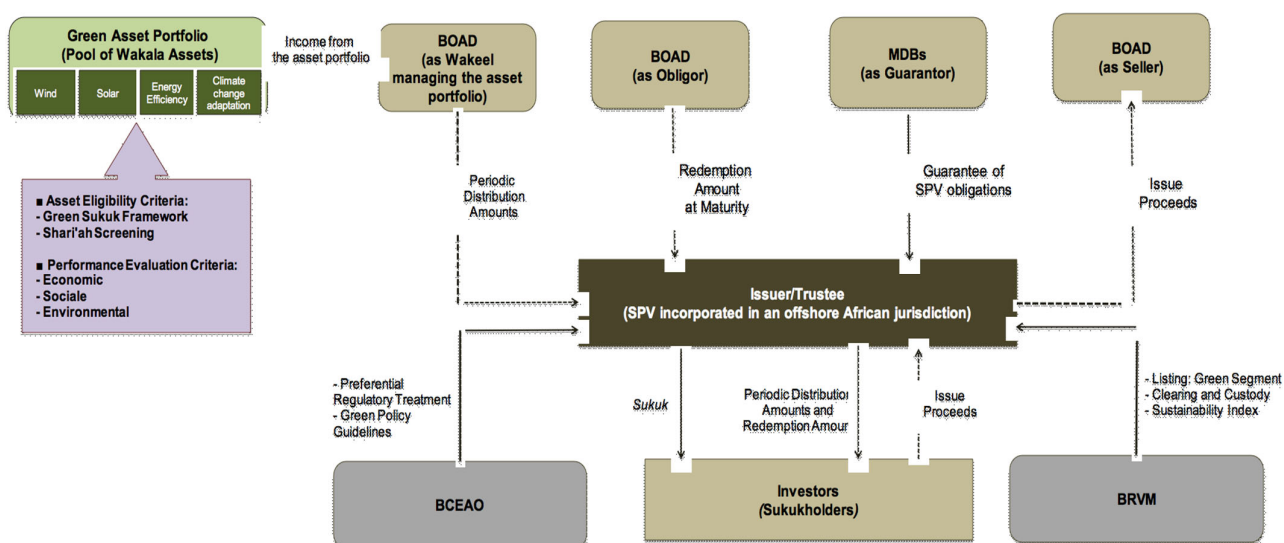
<sup>21</sup> *Wakala* is used in Islamic finance to describe a contract of agency or delegated authority pursuant to which the principal (*muwakkil*) appoints an agent (*wakeel*) to carry out a specific task on its behalf.

<sup>22</sup> BOAD provides UEMOA members with assistance to support their development efforts. Social actions of BOAD related to energy poverty and climate change include the facilitation of access for rural populations to microfinance and modern power services, the financing of hydro-agricultural development, and environmental protection. BOAD has mapped out an environmental and climate strategy for 2015–19 and established a dedicated department in charge of environment and climate finance. It is an observer at the United Nations Framework Convention on Climate Change (UNFCCC).

integration are strategic areas of BOAD's interventions. The bank has already developed a portfolio of climate projects with a view to mobilizing grant resources. Strategic area 1 consists of accelerating regional integration through sustained infrastructure financing.<sup>23</sup>

Setting up green *sukuk* program would require adoption of a framework for the selection of eligible green projects as well as a reporting methodology to assess the social and environmental impact of the projects financed. To enhance the liquidity of the *sukuk* issued, the BCEAO could grant the paper preferential regulatory treatment. Listing of the *sukuko* on the BRVM could promote transparency and credibility. Figure 10 details how a *wakala sukuk* program could help finance small-scale renewable energy projects within UEMOA.

**Figure 10: *Wakala* structure for green *sukuk* within the Union Economique et Monétaire Ouest Africaine (UEMOA)<sup>24</sup>**



## Action areas

### Standardization

Standardization is important to promote the development of a new instrument. Standard terminology on the “green” qualification of investments facilitates the understanding of green *sukuk* among investors and issuers<sup>25</sup> and helps issuers claim the “green” status of their issuances and therefore attract environment-friendly investors.

<sup>23</sup> The BOAD 2015–2019 Strategic Plan aims to promote growth in the economies of UEMOA while member countries show their resolve to become emerging economies in the coming decades. The plan includes four strategic areas: acceleration of regional integration through sustained infrastructure financing; support for inclusive growth, food security, and sustainable development; support for businesses and member states and development of financial engineering and services; and deepening the resource mobilization process (www.boad.org).

<sup>24</sup> Note: BOAD = West African Development Bank; BRVM = Bourse Régionale des Valeurs Mobilières; BCEAO = Central Bank for the West African States. Offshore financial services centers in Africa include Botswana, the Cayman Islands, Ghana, Liberia, Mauritius, and Seychelles. The Cayman Islands is frequently used for structured finance transactions line securitizations and sukuk because its laws recognize nonpetition covenants and limited recourse arrangements, important requirements to ensure the bankruptcy remoteness of the special purpose vehicle.

<sup>25</sup> Few market players considered the IFFIm *sukuk* issued by GAVI or the *sukuk Ihsan* issued by Khazanah as green. CBI's standard taxonomy for qualifying climate bonds includes energy, energy efficiency, transport, water, waste management, land use, and adaptation infrastructure. Each category comprises various subcategories. The energy category includes renewables, distribution/management, energy storage, and products and technology that support smart-grid and data centers using renewable energy.

If one considers the environmental criteria related to carbon emissions, for example, nuclear energy can be considered green. However, it creates the risk of catastrophic accidents and other side effects, such as waste treatment. The CBI excludes nuclear energy and fossil fuels from its climate bonds taxonomy. It also distinguishes labelled green bonds from unlabeled green bonds, which have a wider market. Unlabeled green bonds meet certain criteria, such as lower CO<sub>2</sub> emissions, but do not meet all the characteristics of green bonds, such as segregation of funds and direct financing of green projects.

Few market players considered the IFFIm *sukuk* issued by GAVI or the *sukuk Ihsan* issued by Khazanah as green. CBI's standard taxonomy for qualifying climate bonds includes energy, energy efficiency, transport, water, waste management, land use, and adaptation infrastructure. Each category comprises various subcategories. The energy category includes renewables, distribution/management, energy storage, and products and technology that support smart-grid and data centers using renewable energy.

Many standards have been issued. Multilateral development banks' green bonds principles have enhanced transparency and understanding of the instrument.<sup>26</sup> The standards issued by Malaysia's Securities Commission for SRI *sukuk* have been used as principles of the *sukuk ihsane*.

These frameworks usually distinguish five criteria that should be considered to qualify as a green bond:

- Categories of eligible projects (such as renewable energy and energy efficiency)
- Selection process
- Rules governing the management and allocation of the issuance proceeds
- Communication and impact measurement
- Conformity assessment through third-party certification.

Additional clauses are integrated in legal documentation to ensure the traceability of the proceeds. Issuance proceeds are ring-fenced in a sub-portfolio to be allocated to green eligible projects.

### *Incentives*

Incentives can help promote investment and tradability and enhance cost-effectiveness for investors and issuers. They can include tax incentives and preferential regulatory treatment. Tax incentives can be provided to investors or issuers. Examples include tax neutrality, stump duty exemption and reductions in withholding taxes. Preferential regulatory treatment increases demand for government or supranational paper. Basel III, for example, limits the capacity of banks to extend long-term financing. Limits are even stricter for green financing, which triggers additional risks. Preferential regulatory treatment by central banks could include the qualification of green *sukuk* as High-Quality Liquid Assets

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<sup>26</sup> These principles were published by a consortium of 13 major international investment banks on January 13, 2014. They aim to guide issuers on the process of issuing green bonds and encourage the growth and standardization of the green bond market. At the end of 2015, more than 70 Financial Institutions were adhering to the principles of green bonds.

(HQLAs),<sup>27</sup> their eligibility for central banks reserve management,<sup>28</sup> and the possibility of their use as collateral.

### *Credibility*

The development of reporting and impact monitoring and assessment tools will enhance the credibility of green *sukuk* issuances. Multidimensional indicators should be used to assess the achievement of social and environmental objectives. As mentioned, Green bonds, for example, require a third-party opinion, which is important in the process of selecting investors. Investors who do not have dedicated internal teams can rely on these third-party opinions.

The *shari'ah fatwa* adds another layer to the compliance process in the case of *sukuk*. One option could be to combine both certifications, assuming that the assessment of *shari'ah* compliance also requires sustainability assessment based on *maqasid*. A transaction that fails the sustainability compliance is not *maqasid* compliant and therefore does not qualify as *shari'ah* compliant. Some scholars may argue that sustainability assessment is beyond the scope of *shari'ah* compliance. However, in the *maqasidi* approach, environmental and social risks are by default embedded in the *shari'ah* risk. Therefore, third-party certifications on environmental and social impacts should be a component of the *shari'ah* compliance certification.

### *Impact assessment*

Impact measurement and transparency increases investors' confidence about the sustainability impact of the instruments they invest in. Development of environmental and social impact indicators can increase the transparency of green *sukuk* and therefore attract a wider base of "ethical" investors. This could be done through the development of sustainability reporting and sustainability rating<sup>29</sup> methodologies. The expected impact consists mainly of increased access to clean energy, reduction in greenhouse gas emissions, and improvement in air quality. Other indicators could include reductions in respiratory diseases, deforestation, soil erosion, and degradation of biodiversity.

Several initiatives have focused on results-based financing and instruments that link financial flows with measurable performance in the field, leading to the development of scorecards. One is the Global Alliance for Banking on Values (GABV) initiative, an alliance of banks concerned about the impact of their financing. Its scorecard incorporates qualitative and quantitative criteria to measure the economic, social, and environmental impact of banks. The objective is to measure how banks can and should have a positive impact through the deployment of capital and resources. The main elements of the grid are (a) quantitative factors (financial viability, axis on the real economy); (b) qualitative factors (strategic direction, implementation, identifiable results); and (c) the Oikocredit initiative, which has developed a grid that integrates ESG criteria and identifies the strengths and weaknesses of organizations and monitors and monitors their social performance. The grid uses five main criteria: scope and inclusion (15 percent); benefits and well-being of clients

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<sup>27</sup> The Basel Committee's criteria for being considered an HQLA include the credit rating, issuer type, and maximum price changes over a 30-day period.

<sup>28</sup> Central banks usually restrict their reserve management to government and highly rated instruments. Adding green *sukuk* to the list of eligible instruments would help promote the market while providing a signal of the government's mobilization to mitigate climate change. The Central Bank of Morocco purchased \$100 million of the World Bank's green bonds in November 2016 for its reserves management. The AAA rating of the paper made the investment attractive.

<sup>29</sup> Among the rating agencies that specialize in environmental performance are Innovest (United States), EIRIS (United Kingdom), and SAM (Switzerland). Green *sukuk* dedicated methodologies should enhance the evaluation of their environmental impact performance.



(40 percent); social and governance performance (30 percent); environment (5 percent); and responsibility to the community and employees.

A group of four international banks active in the green bond market, African Development Bank, Deutsche Bank, Swiss Finance Institute, and the European Investment Bank proposed a harmonized framework for impact reporting on green bonds. Its template proposes a portfolio-based report on the volume of green bond proceeds allocated to renewable energy and energy efficiency projects. Impact metrics include annual greenhouse gas emissions reduced, annual energy savings, and renewable energy capacity added.

### *Enabling factors*

#### *Support from development finance institutions*

Development finance institutions play an important role in promoting green finance because of their mandates and status, especially in emerging economies, where they serve as enablers for the private sector and can leverage and pool resources in order to allocate them to development projects. Development finance institutions promote economic development and investments in critical infrastructure and broaden access to financial services. They include multilateral development banks; bilateral institutions; regional institutions; national development banks; and national, regional, and international funds.

Multilateral development banks (MDBs) have key attributes that enable them to raise funds in financial markets at competitive prices. They include (a) the high rating (AAA), which allows them to borrow at very low interest rates on capital markets; (b) the preferred creditor status, which ensures the multilateral development banks a priority of payment in case of difficulty of the debtor; and (c) the multiplier effect, which allows multilateral development banks to use their capital base to multiply the funds allocated to development.

MDBs played a key role in promoting thematic bond issuances through inaugural issuances.<sup>30</sup> They used a private placement format, which reduces disclosure requirements and simplifies the execution process of the *sukuk* issued.

Support from development finance institutions can take various forms, including technical assistance and capacity building, credit-enhancement mechanisms<sup>31</sup> to improve the credit quality of the *sukuk* issued, co-financing and grants to national governments, and concessional financing.

Africa received about \$14 billion in project finance from Islamic sources between 2005 and 2012, of which \$10 billion was provided by Islamic development finance institutions. Eighty percent of the funding provided was allocated to projects in North Africa (Faye, Triki, and Kangoye 2013). In SSA, where the majority of sovereigns are non-investment grade (see appendix), a *shari'ah*-compliant guarantee on green project finance structures could make the transactions bankable and accessible to a wider range of investors (ICIEC 2016).<sup>32</sup> It could promote the development of a liquid *sukuk* market in the region, where

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<sup>30</sup> The World Bank, the European Bank for Reconstructions and Development, the AfDB, and KfW dominated early issuances, providing a positive signal to the market and promoting corporate issuances.

<sup>31</sup> Credit enhancement can take the form of a partial credit guarantee that enables uplifting the credit rating of the issued paper, a co-guarantee with another multilateral development banks, etc.

<sup>32</sup> ICIEC is a member of the Islamic Development Bank group. It carries a credit rating of Aa3 and provides *shari'ah*-compliant credit and political risk insurance for member countries

the only deep and liquid domestic debt market is the Bond Exchange of South Africa (Deutsche Bank 2013). All UEMOA member states are eligible for the AfDB's African Development Fund (ADF) concessionary window (REN21 2014); they are also members of the Islamic Development Bank (ISDB). Only Benin, Burkina Faso, Mali, Niger, and Senegal are members of Islamic Corporation for the Insurance of Investment and Export Credit (ICIEC).

### *Awareness*

Islamic financing and environmental responsibility share a common enabling factor: awareness. Awareness promotes sustainable behaviors and societal accountability by engaging investors, financial institutions, public institutions, and civil society on sustainable development issues.

Mobilization of institutional savings requires the implementation of a dedicated communication strategy. The key message is the long-term benefits of environmental and social responsibility and the need for their embeddedness at various stages of the decision-making process instead of their perception as something that is “nice to have.” Changing this perception would help transform traditional *sukuk* investors into impact investors and attract nontraditional *sukuk* investors, such as conventional SRI investors. Awareness can be based on ethical financial education and awareness campaigns on green investments and environmental risks; support to financial institutions in integrating social and environmental factors into the supply of investment and financing instruments and technical assistance and capacity building; and the establishment of a national entity to promote awareness of ethical, social, and environmental issues.

The development of green *sukuk* requires two levels of awareness. The first is individual awareness of ethical investing and environmental responsibility. Faith-based awareness initiatives can directly affect behaviors and social practices.<sup>33</sup>

The second level of awareness is organizational. It requires industry-level mobilization. A green finance technical working group could provide a platform for the exchange of ideas by representatives of Islamic finance industry practitioners, academia, regulators, investors, international donors, and development finance institutions on green issues and assist in policy development and financial innovation.

### *Effective risk management tools*

Integrating social and environmental considerations into financing and investment decisions requires appropriate risk management tools, which will improve the risk perception of low-carbon projects, particularly in emerging economies.

A study by the World Bank shows significant differences across country groupings in SSA and distinguishes four nonoverlapping groups of countries: oil exporting, lower-middle-income, low-income, and fragile countries (Battaile, Hernandez and Norambuena 2015). This classification is important to consider when designing risk management tools to attract

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<sup>33</sup> The relationship between religion, environmental responsibility, and business ethics has been the object of many dialogues within or across religious groups. Initiatives include the following:

- The interfaith declaration a code of ethics on international business for Christians, Muslims, and Jews
- The statement from theologians, ethicists, and religious leaders in support of fossil fuel divestment and clean energy reinvestment by faith communities
- The Islamic Declaration on Global Climate Change
- Green churches and green mosques.



private sector investment and institutional investors. The study highlights several risks related to international bond issuance in SSA: foreign exchange risk, the need to meet very large bullet repayments, debt sustainability, and financial instability.

Development of green *sukuk* also requires dedicated ESG guidelines and risk management frameworks. A good example in the conventional markets are the Equator Principles, a risk management framework adopted by financial institutions for determining, assessing, and managing environmental and social risk in projects.

#### *Political commitment and willingness*

Development of a financial sector requires an enabling environment, created by establishing the necessary legal foundations and regulative framework. The experience in economic and financial liberalization period since the 1990s shows the importance of political willingness and commitment for the development of financial sector.

As an emerging sector, Islamic finance needs the necessary enabling environment. Some aspects of the existing legal framework and regulatory environment can be instrumental for the development of Islamic finance, but the peculiarities of Islamic contracts require certain legal and regulative changes. Such changes may include taxation-related amendments as well as regulatory frameworks that can address the risks peculiar to Islamic financing. The objective should be the creation of a level playing field for Islamic finance.

Some countries have adopted reactive policies to respond to the needs of Islamic finance industry. Other jurisdictions have taken a proactive stance. Most Organization of Islamic Cooperation countries and most non-Muslim majority countries can be classified under the first category.

Malaysia has been proactive, adopting a top-down industrial policy under the direct guidance of the political authorities and the state. Political commitment and willingness were instrumental in the creation of an integrated and sophisticated Islamic finance ecosystem with a particular legal and regulatory environment. The Malaysian model is considered best practice in the development and expansion of Islamic finance.

Thanks to strong political commitment, Islamic finance has expanded to about 30 percent of the financial sector in Malaysia. Regulatory guidelines for SRI and green *sukuk*-type classes have extended the Islamic financial instruments to assist with the attainment of the SDGs, which has immediately resulted in the issuance of social impact and green *sukuk* in the country.

The Indonesian and Turkish governments have also been proactive. Indonesia's government recently expressed its political commitment by providing a comprehensive strategic roadmap that resulted in an integrated Islamic finance industry and emphasized Islamic social finances, including a *hajj* fund, *zakah* management, and *waqf* administration.

## **5. Concluding Remarks**

Mitigating climate change and achieving the SDGs by 2030 requires national, regional, and international partnerships and collaborations, as well as the development of alternative segments of modern finance. Islamic finance should take advantage of this international mobilization to promote its Islamic potential and values and universalize its model.

Inclusive access to energy is critical if SSA countries are to achieve the SDGs. These countries must focus on green projects, which should be included in national development plans and regional agendas. Green *sukuk* can help bridge the gap in financing so that such projects can be implemented.

Islamic capital markets should be an important source for project financing. A social, ethical, and environmental addition to the *sukuk* market can develop necessary capacity to mobilize resources for the attainment of the SDGs development.

Implementation of the green *sukuk* roadmap provided for SSA requires national commitments, political willingness, and international public-private partnerships. Communication and awareness-raising efforts are needed to attract investors seeking investments with social and environmental impact. Development of a green *sukuk* market requires good governance, expertise, and awareness when dealing with ethical and sustainability issues.

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## Appendix

**Table A 1 Selected metrics for Organisation of Islamic Cooperation (OIC) members in Sub-Saharan Africa**

Country	Income Group	Sovereign Credit Rating			Issuer of		Access to Electricity (%)			Renewable Energy Objective	Climate Risk Index (CRI)	Environmental Performance Index (EPI)
		S&P	Moody's	Fitch	Bonds	Sukuk	National	Urban	Rural			
Nigeria	Lower middle income	B		B+	X	X	45%	55%	37%	10% by 2020	76	58.27
Sudan	Lower middle income				X	X	35%	63%	21%	20% by 2030 [11% by 2031]	75.33	42.25
Senegal	Lower middle income	B+	B1		X	X	55%	90%	28%	20% by 2017	105.83	63.73
Cameroon	Lower middle income	B		B			55%	88%	17%		102.83	57.13
Burkina Faso	Low income	B-					17%	56%	1%		61	43.71
Niger	Low income						15%	62%	4%		77.17	37.48
Gabon	Upper middle income			B+	X		89%	97%	38%	80% by 2025 70% by 2020	124.5	67.37
Mali	Low income			B-			26%	53%	9%	10% by 2015 25% by 2033	105.83	41.48
Guinea	Low income						26%	53%	11%		86.33	55.4
Mauritania	Low income						28%	47%	2%		124.5	46.31
Mozambique	Low income		Aa2		X		39%	66%	27%		12.17	41.82
Gambia	Low income			CCC	X	X	36%	60%	2%	35% by 2020		52.09
Uganda	Low income	B+		B			15%	55%	7%	61% by 2017	110.5	57.56
Benin	Low income			B			29%	57%	9%		124.5	43.66
Togo	Low income				X	X	27%	35%	21%	15% by 2020	114.33	46.1
Sierra Leone	Low income						5%	11%	1%		88.5	45.98
Comoros	Low income						69%	89%	62%	43% by 2030	124.5	49.2
Cote d'Ivoire	Lower middle income			B+	X	X	26%	42%	8%	42% by 2020	95	59.89
Chad	Low income						4%	14%	1%		124.5	37.83
Djibouti	Lower middle income						50%	61%	14%	35% by 2035 [100% by 2020]	124.5	45.29
Guinea-Bissau	Low income						21%	37%	6%	2% by 2015	54.83	48.2
Somalia	Low income						15%	33%	4%			